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	/ Pro Gl				gg acc tgg rg Thr Trp 109	Ser Gln		94
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- Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Thr Leu Ile Lys Ile Ile 820 825 830
- Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val Leu Ala Ile 835 840 845
- Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe Gly Lys Asn 850 855 860
- Tyr Ser Glu Leu Arg Asp Ser Asp Ser Gly Leu Leu Pro Arg Trp His 865 870 875 880
- Met Met Asp Phe Phe His Ala Phe Leu Ile Ile Phe Arg Ile Leu Cys 885 890 895
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- Val Val Leu Asn Leu Phe Leu Ala Leu Leu Ser Ser Phe Ser Ala 930 935 940
- Asp Asn Leu Thr Ala Pro Asp Glu Asp Arg Glu Met Asn Asn Leu Gln 945 950 955 960
- Leu Ala Leu Ala Arg Ile Gln Arg Gly Leu Arg Phe Val Lys Arg Thr
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- Ala Ala Leu Ala Ala Gln Gly Gln Leu Pro Ser Cys Ile Ala Thr Pro 995 1000 1005
- Tyr Ser Pro Pro Pro Pro Glu Thr Glu Lys Val Pro Pro Thr Arg 1010 1015 1020

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- Ser Ala Thr Ala Ser Ser Glu Ala Glu Ala Ser Ala Ser Gln Ala 1100 1105 1110
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- Gly Glu Thr Pro Glu Asp Ser Cys Ser Glu Gly Ser Thr Ala Asp 1130 1135 1140
- Met Thr Asn Thr Ala Glu Leu Leu Glu Gln Ile Pro Asp Leu Gly 1145 1150 1155
- Gln Asp Val Lys Asp Pro Glu Asp Cys Phe Thr Glu Gly Cys Val 1160 1165 1170
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- His Ser Trp Phe Glu Thr Phe Ile Ile Phe Met Ile Leu Leu Ser 1205 1210 1215
- Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Leu Glu Glu Arg Lys 1220 1230
- Thr Ile Lys Val Leu Leu Glu Tyr Ala Asp Lys Met Phe Thr Tyr 1235 1240 1245
- Val Phe Val Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe 1250 1255 1260

- Lys Lys Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile 1265 1270 1275
- Val Asp Val Ser Leu Val Ser Leu Val Ala Asn Thr Leu Gly Phe 1280 1285 1290
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- Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala 1415 1420 1425
- Val Asp Ser Arg Gly Tyr Glu Glu Gln Pro Gln Trp Glu Tyr Asn 1430 1435 1440
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- Asp Pro Thr Leu Pro Asn Ser Asn Gly Ser Arg Gly Asp Cys Gly 1730 1740
- Ser Pro Ala Val Gly Ile Leu Phe Phe Thr Thr Tyr Ile Ile Ile 1745 1750 1755
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- Asp Ala Leu Ser Glu Pro Leu Arg Ile Ala Lys Pro Asn Gln Ile 1820 1825 1830
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- Thr Thr Leu Arg Arg Lys His Glu Glu Val Ser Ala Met Val Ile 1895 1900 1905
- Gln Arg Ala Phe Arg Arg His Leu Leu Gln Arg Ser Leu Lys His 1910 1915 1920
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- Glu Asn Phe Ser Arg Pro Leu Gly Pro Pro Ser Ser Ser Ile 1955 1960 1965

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	act Thr															1824
	gag Glu 610															1872
gag Glu 625	cac His	ccg Pro	cca Pro	gac Asp	acg Thr 630	acc Thr	acg Thr	cca Pro	tcg Ser	gag Glu 635	gag Glu	cca Pro	ggc Gly	gly ggg	ccc Pro 640	1920
cag	atg	ctg	acc	tcc	cag	gct	ccg	tgt	gta	gat	ggc	ttc	gag	gag	cca	1968

Gln	Met	Leu	Thr	Ser 645	Gln	Ala	Pro	Cys	Val 650	Asp	Gly	Phe	Glu	Glu 655	Pro	
							agc Ser									2016
_	-						cgc Arg 680		_	_			_			2064
							atc Ile									2112
							ttg Leu									2160
							gta Val									2208
							gaa Glu									2256
							ttc Phe 760									2304
							tac Tyr									2352
							agc Ser									2400
_	_		_	_		_	cgc Arg			_	_	_		_		2448
							acc Thr									2496
							999 Gly 840									2544
							gtg Val									2592
							gac Asp									2640
			Phe				ttc Phe	Leu								2688

gga gag tgg atc gag acc atg tgg gac tgc atg gag gtg tcg ggg cag Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met Glu Val Ser Gly Gln 900 905 910	
tca tta tgc ctg ctg gtc ttc ttg ctt gtt atg gtc att ggc aac ctt Ser Leu Cys Leu Leu Val Phe Leu Leu Val Met Val Ile Gly Asn Leu 915 920 925	
gtg gtc ctg aat ctc ttc ctg gcc ttg ctg ctc agc tcc ttc agt gca Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ala 930 935 940	
gac aac ctc aca gcc cct gat gag gac aga gag atg aac aac ctc cag Asp Asn Leu Thr Ala Pro Asp Glu Asp Arg Glu Met Asn Asn Leu Gln 945 950 955 960	
ctg gcc ctg gcc cgc atc cag agg ggc ctg cgc ttt gtc aag cgg acc Leu Ala Leu Ala Arg Ile Gln Arg Gly Leu Arg Phe Val Lys Arg Thr 965 970 975	
acc tgg gat ttc tgc tgt ggt ctc ctg cgg cag cgg cct cag aag ccc Thr Trp Asp Phe Cys Cys Gly Leu Leu Arg Gln Arg Pro Gln Lys Pro 980 985 990	
gca gcc ctt gcc gcc cag ggc cag ctg ccc agc tgc att gcc acc c Ala Ala Leu Ala Ala Gln Gly Gln Leu Pro Ser Cys Ile Ala Thr P 995 1000 1005	
tac tcc ccg cca ccc cca gag acg gag aag gtg cct ccc acc cgc Tyr Ser Pro Pro Pro Pro Glu Thr Glu Lys Val Pro Pro Thr Arg 1010 1015 1020	3069
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ccc ggggat cca gag ccc gtgtgt gtg ccc atc gctgtg gcc gagPro GlyAsp Pro Glu Pro ValCys Val Pro Ile AlaVal Ala Glu104010451050	3159
tca gac aca gat gac caa gaa gaa gat gag gag aac agc ctg ggc Ser Asp Thr Asp Asp Gln Glu Glu Asp Glu Glu Asn Ser Leu Gly 1055 1060 1065	3204
acg gag gag tcc agc aag cag gaa tcc cag cct gtg tcc Thr Glu Glu Glu Ser Ser Lys Gln Glu Ser Gln Pro Val Ser 1070 1075 1080	3249
ggt ggc cca gag gcc cct ccg gat tcc agg acc tgg agc cag gtg Gly Gly Pro Glu Ala Pro Pro Asp Ser Arg Thr Trp Ser Gln Val 1085 1090 1095	3294
tca gcg act gcc tcc tct gag gcc gag gcc agt gca tct cag gcc Ser Ala Thr Ala Ser Ser Glu Ala Glu Ala Ser Ala Ser Gln Ala 1100 1105 1110	3339
gac tgg cgg cag cag tgg aaa gcg gaa ccc cag gcc cca ggg tgc Asp Trp Arg Gln Gln Trp Lys Ala Glu Pro Gln Ala Pro Gly Cys 1115 1120 1125	3384
ggt gag acc cca gag gac agt tgc tcc gag ggc agc aca gca gac Gly Glu Thr Pro Glu Asp Ser Cys Ser Glu Gly Ser Thr Ala Asp 1130 1135 1140	3429

atg Met	acc Thr 1145	aac Asn	acc Thr	gct Ala	gag Glu	ctc Leu 1150	ctg Leu	gag Glu	cag Gln	atc Ile	cct Pro 1155	Asp	ctc Leu	ggc Gly	3474
_		Val				gag Glu 1165									3519
						gcg Ala 1180									3564
_	gtc Val 1190				_	cgc Arg 1195	_		_						3609
_						ttc Phe 1210				_				_	3654
						gag Glu 1225									3699
	atc Ile 1235					gag Glu 1240					atg Met 1245				3744
						ctg Leu 1255					gcc Ala 1260				3789
	aag Lys 1265					gcc Ala 1270					gac Asp 1275				3834
						agc Ser 1285									3879
						aag Lys 1300								ctc Leu	3924
cgt Arg	cct Pro 1310	ctg Leu	aga Arg	gct Ala	ctg Leu	tca Ser 1315	cga Arg	ttt Phe	gag Glu	ggc Gly	atg Met 1320	agg Arg	gtg Val	gtg Val	3969
gtc Val						gcc Ala 1330							_		4014
ctc Leu						tgg Trp 1345						atg Met			4059
aac Asn						ttt Phe 1360					aac Asn 1365				4104
	gac Asp	_		_							aac Asn				4149

1370 1375 1380

_	gag Glu 1385		_		_			_	_				_		,	4194
	gtc Val 1400														-	4239
_	gtg Val 1415	_						_	_		_		_	_		4284
	gac Asp 1430															4329
	tac Tyr 1445												gl <sup>à</sup> aaa		,	4374
	ttc Phe 1460					ttt Phe 1465					att Ile 1470					4419
	caa Gln 1475															4464
	gag Glu 1490	_	_	_				_	_	_	_	_				4509
_	aag Lys 1505		_	_						_	aac Asn 1515	_		_		4554
	ttc Phe 1520												gtc Val		•	4599
atc Ile	atg Met 1535	ttt Phe	ctg Leu	atc Ile	tgc Cys	ttg Leu 1540	aat Asn	atg Met	gtg Val	acc Thr	atg Met 1545	atg Met	gtg Val	gag Glu	•	4644
	gat Asp 1550	-		_		gag Glu 1555					_	_	_		•	4689
	ctg Leu 1565					atc Ile 1570							gtc Val	_	•	4734
_	gct Ala 1580	_	_	_		tac Tyr 1585					_		aat Asn		•	4779
	gac Asp 1595					atc Ile 1600									•	4824
tcg	gac	atc	atc	cag	aag	tac	ttc	ttc	tcc	ccg	acg	ctc	ttc	cga	4	4869

Ser	Asp 1610		Ile	Gln	Lys	Tyr 1615	Phe	Phe	Ser	Pro	Thr 1620	Leu	Phe	Arg	
	atc Ile 1625													cga Arg	4914
	gcc Ala 1640	Lys													4959
	cct Pro 1655														5004
	atc Ile 1670														5049
	gag Glu 1685	_			_	_	_				_			_	5094
	agc Ser 1700														5139
	ggc Gly 1715														5184
	ccc Pro 1730														5229
_	cca Pro 1745	_													5274
	ttc Phe 1760	Leu	Ile	Val	Val		Met	Tyr	Ile	Ala	Ile	Ile			5319
	ttc Phe 1775														5364
	gac Asp 1790														5409
	gcc Ala 1805					gag Glu 1810									5454
	gcc Ala 1820														5499
	ctc Leu 1835														5544

	tgc Cys 1850	_	_			ttt Phe 1855	_					_	_		5589
	tct Ser 1865					gcc Ala 1870									5634
						tcc Ser 1885									5679
_	aca Thr 1895			_	_	cac His 1900	_			_	_		_		5724
_	_	_		_		cac His 1915	_	_		_		_	_		5769
	tcc Ser 1925					cag Gln 1930									5814
	gat Asp 1940					gag Glu 1945				_			_	_	5859
_	aac Asn 1955					ctt Leu 1960									5904
	tcc Ser 1970					ccc Pro 1975							aga Arg		5949
	agc Ser 1985					gtg Val 1990									5994
						ccc Pro 2005								gag Glu	6039
	atc Ile 2015	gtg Val	tgag	gccto	egg (	cctgg	etggo	c cag	ggaca	acac	tgaaa	aagca	ıg		6088
cctt	tttca	ac ca	atggo	caaac	cta	aatgo	ag t	cagt	cama	aa ad	ccagco	ctgg	ggco	ttcctg	6148
gctt	tggga	ag ta	aagaa	atgg	g gcd	et									6172

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	Arg	-								_		-	Leu	Pro	Glu

Glu	Glu	Ala	Pro	Arg	Pro	${\tt Gln}$	Leu	Asp	Leu	Gln	Ala	Ser	Lys	Lys	Leu
	50					55					60				

Pro Asp Leu Tyr Gly Asn Pro Pro Gln Glu Leu Ile Gly Glu Pro Leu 65 70 75 80

Glu Asp Leu Asp Pro Phe Tyr Ser Thr Gln Lys Thr Phe Ile Val Leu 85 90 95

Asn Lys Gly Lys Thr Ile Phe Arg Phe Ser Ala Thr Asn Ala Leu Tyr 100 105 110

Val Leu Ser Pro Phe His Pro Ile Arg Arg Ala Ala Val Lys Ile Leu 115 120 125

Val His Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn 130 135 140

Cys Val Phe Met Ala Gln His Asp Pro Pro Pro Trp Thr Lys Tyr Val 145 150 155 160

Glu Tyr Thr Phe Thr Ala Ile Tyr Thr Phe Glu Ser Leu Val Lys Ile 165 170 175

Leu Ala Arg Gly Phe Cys Leu His Ala Phe Thr Phe Leu Arg Asp Pro 180 185 190

Trp Asn Trp Leu Asp Phe Ser Val Ile Ile Met Ala Tyr Thr Thr Glu 195 200 205

Phe Val Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu 210 215 220

Arg Ala Leu Lys Thr Ile Ser Val Ile Ser Gly Leu Lys Thr Ile Val 225 230 235 240

Gly Ala Leu Ile Gln Ser Val Lys Lys Leu Ala Asp Val Met Val Leu 245 250 255

Thr Val Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe 260 265 270

Met	Gly	Asn 275	Leu	Arg	His	Lys	Cys 280	Val	Arg	Asn	Phe	Thr 285	Ala	Leu	Asn
Gly	Thr 290	Asn	Gly	Ser	Val	Glu 295	Ala	Asp	Gly	Leu	Val 300	Trp	Glu	Ser	Leu
Asp 305	Leu	Tyr	Leu	Ser	Asp 310	Pro	Glu	Asn	Tyr	Leu 315	Leu	Lys	Asn	Gly	Thr 320
Ser	Asp	Val	Leu	Leu 325	Cys	Gly	Asn	Ser	Ser 330	Asp	Ala	Gly	Thr	Cys 335	Pro
Glu	Gly	Tyr	Arg 340	Cys	Leu	Lys	Ala	Gly 345	Glu	Asn	Pro	Asp	His 350	Gly	Tyr
Thr	Ser	Phe 355	Asp	Ser	Phe	Ala	Trp 360	Ala	Phe	Leu	Ala	Leu 365	Phe	Arg	Leu
Met	Thr 370	Gln	Asp	Cys	Trp	Glu 375	Arg	Leu	Tyr	Gln	Gln 380	Thr	Leu	Arg	Ser
Ala 385	Gly	Lys	Ile	Tyr	Met 390	Ile	Phe	Phe	Met	Leu 395	Val	Ile	Phe	Leu	Gly 400
Ser	Phe	Tyr	Leu	Val 405	Asn	Leu	Ile	Leu	Ala 410	Val	Val	Ala	Met	Ala 415	Tyr
Glu	Glu	Gln	Asn 420	Gln	Ala	Thr	Ile	Ala 425	Glu	Thr	Glu	Glu	Lys 430	Glu	Lys
Arg	Phe	Gln 435	Glu	Ala	Met	Glu	Met 440	Leu	Lys	Lys	Glu	His 445	Glu	Ala	Leu
Thr	Ile 450	Arg	Gly	Val	Asp	Thr 455	Val	Ser	Arg	Ser	Ser 460	Leu	Glu	Met	Ser
Pro 465	Leu	Ala	Pro	Val	Asn 470	Ser	His	Glu	Arg	Arg 475	Ser	Lys	Arg	Arg	Lys 480
Arg	Met	Ser	Ser	Gly 485	Thr	Glu	Glu	Cys	Gly 490	Glu	Asp	Arg	Leu	Pro 495	Lys
Ser	Asp	Ser	Glu 500	Asp	Gly	Pro	Arg	Ala 505	Met	Asn	His	Leu	Ser 510	Leu	Thr

Arg Gly Leu Ser Arg Thr Ser Met Lys Pro Arg Ser Ser Arg Gly Ser

Ile Phe Thr Phe Arg Arg Arg Asp Leu Gly Ser Glu Ala Asp Phe Ala 530 535 Asp Asp Glu Asn Ser Thr Ala Gly Glu Ser Glu Ser His Arg Thr Ser 550 555 Leu Leu Val Pro Trp Pro Leu Arg Arg Thr Ser Ala Gln Gly Gln Pro 565 570 Ser Pro Gly Thr Ser Ala Pro Gly His Ala Leu His Gly Lys Lys Asn 585 Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Leu Gly Ala Gly Asp Pro Glu Ala Thr Ser Pro Gly Ser His Leu Leu Arg Pro Val Met Leu Glu His Pro Pro Asp Thr Thr Pro Ser Glu Glu Pro Gly Gly Pro 635 Gln Met Leu Thr Ser Gln Ala Pro Cys Val Asp Gly Phe Glu Glu Pro 645 650 Gly Ala Arg Gln Arg Ala Leu Ser Ala Val Ser Val Leu Thr Ser Ala 660 665 Leu Glu Glu Leu Glu Glu Ser Arg His Lys Cys Pro Pro Cys Trp Asn 680 Arg Leu Ala Gln Arg Tyr Leu Ile Trp Glu Cys Cys Pro Leu Trp Met 695 Ser Ile Lys Gln Gly Val Lys Leu Val Val Met Asp Pro Phe Thr Asp 715 Leu Thr Ile Thr Met Cys Ile Val Leu Asn Thr Leu Phe Met Ala Leu Glu His Tyr Asn Met Thr Ser Glu Phe Glu Glu Met Leu Gln Val Gly Asn Leu Val Phe Thr Gly Ile Phe Thr Ala Glu Met Thr Phe Lys Ile

760

755

- Ile Ala Leu Asp Pro Tyr Tyr Tyr Phe Gln Gln Gly Trp Asn Ile Phe 770 775 780
- Asp Ser Ile Ile Val Ile Leu Ser Leu Met Glu Leu Gly Leu Ser Arg
  785 790 795 800
- Met Ser Asn Leu Ser Val Leu Arg Ser Phe Arg Leu Leu Arg Val Phe 805 810 815
- Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Thr Leu Ile Lys Ile Ile 820 825 830
- Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val Leu Ala Ile 835 840 845
- Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe Gly Lys Asn 850 855 860
- Tyr Ser Glu Leu Arg Asp Ser Asp Ser Gly Leu Leu Pro Arg Trp His 865 870 875 880
- Met Met Asp Phe Phe His Ala Phe Leu Ile Ile Phe Arg Ile Leu Cys 885 890 895
- Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met Glu Val Ser Gly Gln
  900 905 910
- Ser Leu Cys Leu Leu Val Phe Leu Leu Val Met Val Ile Gly Asn Leu 915 920 925
- Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ala 930 935 940
- Asp Asn Leu Thr Ala Pro Asp Glu Asp Arg Glu Met Asn Asn Leu Gln 945 950 955 960
- Leu Ala Leu Ala Arg Ile Gln Arg Gly Leu Arg Phe Val Lys Arg Thr 965 970 975
- Thr Trp Asp Phe Cys Cys Gly Leu Leu Arg Gln Arg Pro Gln Lys Pro 980 985 990
- Ala Ala Leu Ala Ala Gln Gly Gln Leu Pro Ser Cys Ile Ala Thr Pro 995 1000 1005
- Tyr Ser Pro Pro Pro Pro Glu Thr Glu Lys Val Pro Pro Thr Arg 1010 1015 1020

- Lys Glu Thr Arg Phe Glu Glu Gly Glu Gln Pro Gly Gln Gly Thr 1025 1030 1035
- Pro Gly Asp Pro Glu Pro Val Cys Val Pro Ile Ala Val Ala Glu 1040 1045 1050
- Ser Asp Thr Asp Asp Gln Glu Glu Asp Glu Glu Asn Ser Leu Gly 1055 1060 1065
- Thr Glu Glu Ser Ser Lys Gln Glu Ser Gln Pro Val Ser 1070 1075 1080
- Gly Gly Pro Glu Ala Pro Pro Asp Ser Arg Thr Trp Ser Gln Val 1085 1090 1095
- Ser Ala Thr Ala Ser Ser Glu Ala Glu Ala Ser Ala Ser Gln Ala 1100 1105 1110
- Asp Trp Arg Gln Gln Trp Lys Ala Glu Pro Gln Ala Pro Gly Cys 1115 1120 1125
- Gly Glu Thr Pro Glu Asp Ser Cys Ser Glu Gly Ser Thr Ala Asp 1130 1135 1140
- Met Thr Asn Thr Ala Glu Leu Leu Glu Gln Ile Pro Asp Leu Gly 1145 1150 1155
- Gln Asp Val Lys Asp Pro Glu Asp Cys Phe Thr Glu Gly Cys Val 1160 1165 1170
- Arg Arg Cys Pro Cys Cys Ala Val Asp Thr Thr Gln Ala Pro Gly 1175 1180 1185
- Lys Val Trp Trp Arg Leu Arg Lys Thr Cys Tyr His Ile Val Glu 1190 1195 1200
- His Ser Trp Phe Glu Thr Phe Ile Ile Phe Met Ile Leu Leu Ser 1205 1210 1215
- Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Leu Glu Glu Arg Lys 1220 1225 1230
- Thr Ile Lys Val Leu Leu Glu Tyr Ala Asp Lys Met Phe Thr Tyr 1235 1240 1245
- Val Phe Val Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe 1250 1260

- Lys Lys Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile 1265 1270 1275
- Val Asp Val Ser Leu Val Ser Leu Val Ala Asn Thr Leu Gly Phe 1280 1285 1290
- Ala Glu Met Gly Pro Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu 1295 1300 1305
- Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val 1310 1315 1320
- Val Asn Ala Leu Val Gly Ala Ile Pro Ser Ile Met Asn Val Leu 1325 1330 1335
- Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val 1340 1345 1350
- Asn Leu Phe Ala Gly Lys Phe Gly Arg Cys Ile Asn Gln Thr Glu 1355 1360 1365
- Gly Asp Leu Pro Leu Asn Tyr Thr Ile Val Asn Asn Lys Ser Gln 1370 1375 1380
- Cys Glu Ser Leu Asn Leu Thr Gly Glu Leu Tyr Trp Thr Lys Val 1385 1390 1395
- Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala Leu Leu 1400 1410
- Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala 1415 1420 1425
- Val Asp Ser Arg Gly Tyr Glu Glu Gln Pro Gln Trp Glu Tyr Asn 1430 1435 1440
- Leu Tyr Met Tyr Ile Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser 1445 1450 1455
- Phe Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe 1460 1465 1470
- Asn Gln Gln Lys Lys Leu Gly Gly Gln Asp Ile Phe Met Thr 1475 1480 1485
- Glu Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser

Lys	Lys 1505		Gln	Lys	Pro	Ile 1510	Pro	Arg	Pro	Leu	Asn 1515	Lys	Tyr	Gln
Gly	Phe 1520	Ile	Phe	Asp	Ile	Val 1525		Lys	Gln	Ala	Phe 1530	Asp	Val	Thr
Ile	Met 1535	Phe	Leu	Ile	Cys	Leu 1540	Asn	Met	Val	Thr	Met 1545	Met	Val	Glu
Thr	Asp 1550	Asp	Gln	Ser	Pro	Glu 1555	Lys	Ile	Asn	Ile	Leu 1560	Ala	Lys	Ile
Asn	Leu 1565	Leu	Phe	Val	Ala	Ile 1570	Phe	Thr	Gly	Glu	Cys 1575	Ile	Val	Lys
Leu	Ala 1580	Ala	Leu	Arg	His	Tyr 1585	Tyr	Phe	Thr	Asn	Ser 1590	Trp	Asn	Ile
Phe	Asp 1595	Phe	Val	Val	Val	Ile 1600	Leu	Ser	Ile	Val	Gly 1605	Thr	Val	Leu
Ser	Asp 1610	Ile	Ile	Gln	Lys	Tyr 1615	Phe	Phe	Ser	Pro	Thr 1620	Leu	Phe	Arg
Val	Ile 1625	Arg	Leu	Ala	Arg	Ile 1630	Gly	Arg	Ile	Leu	Arg 1635	Leu	Ile	Arg
Gly	Ala 1640	Lys	Gly	Ile	Arg	Thr 1645	Leu	Leu	Phe	Ala	Leu 1650	Met	Met	Ser
Leu	Pro 1655	Ala	Leu	Phe	Asn	Ile 1660	Gly	Leu	Leu	Leu	Phe 1665	Leu	Val	Met
Phe	Ile 1670	Tyr	Ser	Ile	Phe	Gly 1675	Met	Ala	Asn	Phe	Ala 1680	Tyr	Val	Lys
Trp	Glu 1685	Ala	Gly	Ile	Asp	Asp 1690	Met	Phe	Asn	Phe	Gln 1695	Thr	Phe	Ala
Asn	Ser 1700	Met	Leu	Cys	Leu	Phe 1705	Gln	Ile	Thr	Thr	Ser 1710	Ala	Gly	Trp
Asp	Gly 1715	Leu	Leu	Ser	Pro	Ile 1720	Leu	Asn	Thr	Gly	Pro 1725	Pro	Tyr	Cys

- Asp Pro Thr Leu Pro Asn Ser Asn Gly Ser Arg Gly Asp Cys Gly 1730 1740
- Ser Pro Ala Val Gly Ile Leu Phe Phe Thr Thr Tyr Ile Ile Ile 1745 1750 1755
- Ser Phe Leu Ile Val Val Asn Met Tyr Ile Ala Ile Ile Leu Glu 1760 1765 1770
- Asn Phe Ser Val Ala Thr Glu Glu Ser Thr Glu Pro Leu Ser Glu 1775 1780 1785
- Asp Asp Phe Asp Met Phe Tyr Glu Ile Trp Glu Lys Phe Asp Pro 1790 1795 1800
- Glu Ala Thr Gln Phe Ile Glu Tyr Ser Val Leu Ser Asp Phe Ala 1805 1810 1815
- Asp Ala Leu Ser Glu Pro Leu Arg Ile Ala Lys Pro Asn Gln Ile 1820 1825 1830
- Ser Leu Ile Asn Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile 1835 1840 1845
- His Cys Met Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly 1850 1860
- Glu Ser Gly Glu Met Asp Ala Leu Lys Ile Gln Met Glu Glu Lys 1865 1870 1875
- Phe Met Ala Ala Asn Pro Ser Lys Ile Ser Tyr Glu Pro Ile Thr 1880 1885 1890
- Thr Thr Leu Arg Arg Lys His Glu Glu Val Ser Ala Met Val Ile 1895 1900 1905
- Gln Arg Ala Phe Arg Arg His Leu Leu Gln Arg Ser Leu Lys His 1910 1915 1920
- Ala Ser Phe Leu Phe Arg Gln Gln Ala Gly Ser Gly Leu Ser Glu 1925 1930 1935
- Glu Asp Ala Pro Glu Arg Glu Gly Leu Ile Ala Tyr Val Met Ser 1940 1945 1950
- Glu Asn Phe Ser Arg Pro Leu Gly Pro Pro Ser Ser Ser Ile 1955 1960 1965

Ser S	er Thi	r Ser	Phe Pr	o Pro 1975		Tyr A	sp Se		1 7	Thr i	Arg :	Ala	
	er Asj 985	o Asn	Leu Gl	n Val 1990	_	Bly S	er As	_	r S	Ser 1	His	Ser	
	sp Let	ı Ala .	Asp Ph	e Pro 2005		Ger P	ro As	-	g <i>I</i> 10	Asp 2	Arg (	Glu	
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	gc ggc rg Gly 35				ln Glı			Glu					144
	ag gct lu Ala 0												192
_	at ctc sp Leu	_	-									_	240
	ac ctg sp Leu		ro Phe										288
	aa ggc ys Gly	_				Ser	_			_	_		336
	tc agt eu Ser 115			Pro I	_	-		Ala		_		_	384
Val H	ac tcg is Ser 30			_		_	_						432

_	gtg Val		_	_	_		_						_		_	480
	tac Tyr				-							_	_	_		528
_	gct Ala	_			_	_								-		576
	aac Asn															624
	gtg Val 210															672
	gcc Ala															720
	gcc Ala	_					_	-	_	_	_		_	-		768
	gtc Val		-		_	_		_				_	_			816
_	ggc Gly					_	_		_							864
	acc Thr 290						_	_		_	_		_		_	912
_	ctt Leu			_	_		_			_		_				960
	gat Asp			_	_			_		_	_			_	_	1008
	ggc Gly			_		_	_					-				1056
	agc Ser															1104
	acg Thr 370															1152
gca Ala	aaa	aad	atc	tac	atq	atc	ttc	ttc	atg	ctt	gtc	atc	ttc	ctg	ggg	1200

385	390	395	400

	ttc Phe															1248
gag Glu	gag Glu	caa Gln	aac Asn 420	caa Gln	gcc Ala	acc Thr	atc Ile	gct Ala 425	gag Glu	acc	gag Glu	gag Glu	aag Lys 430	gaa Glu	aag Lys	1296
	ttc Phe															1344
	atc Ile 450															1392
cct Pro 465	ttg Leu	gcc Ala	cca Pro	gta Val	aac Asn 470	agc Ser	cat His	gag Glu	aga Arg	aga Arg 475	agc Ser	aag Lys	agg Arg	aga Arg	aaa Lys 480	1440
cgg Arg	atg Met	tct Ser	tca Ser	gga Gly 485	act Thr	gag Glu	gag Glu	tgt Cys	999 Gly 490	gag Glu	gac Asp	agg Arg	ctc Leu	ccc Pro 495	aag Lys	1488
	gac Asp															1536
	ggc Gly															1584
	ttc Phe 530															1632
	gat Asp															1680
	ctg Leu															1728
agt Ser	ccc Pro	gga Gly	acc Thr 580	tcg Ser	gct Ala	cct Pro	ggc Gly	cac His 585	gcc Ala	ctc Leu	cat His	ggc	aaa Lys 590	aag Lys	aac Asn	1776
	act Thr															1824
	gag Glu 610															1872
	cac His															1920
cag	atg	ctg	acc	tcc	cag	gct	ccg	tgt	gta	gat	ggc	ttc	gag	gag	cca	1968

Gln	Met	Leu	Thr	Ser 645	Gln	Ala	Pro	Cys	Val 650	Asp	Gly	Phe	Glu	Glu 655	Pro		
					gcc Ala				_	_	_			_	_	20	016
_	_				gag Glu		_		_	_			_			2.0	64
_		_	_	_	tac Tyr	_				_	_	_	_		_	21	112
					gtg Val 710											21	L60
				_	tgc Cys		_						_		_	22	808
					aca Thr											22	256
					Gly 999											23	304
					tac Tyr											23	52
					atc Ile 790											24	00
					gtg Val											24	48
					tgg Trp											24	96
					gca Ala											25	44
atc Ile	gtg Val 850	ttc Phe	atc Ile	ttt Phe	gct Ala	gtg Val 855	gtg Val	ggc Gly	atg Met	cag Gln	ctc Leu 860	ttt Phe	ggc Gly	aag Lys	aac Asn	25	92
	_		_		gac Asp 870	_	_			_	_		_			26	40
					cat His											26	88

														c Gl	g cag y Gln		736
															c ctt n Leu	27	784
															t gca r Ala	28	332
				_		_		_	_		_				c cag u Gln 960	28	380
															g acc g Thr 5	29	928
		_		_	-			_		_			_	Lу	g ccc s Pro	29	976
	gcc Ala							Leu					e 7	-	acc co Thr P:		24
	tcc Ser 1010	Pro		ccc Pro			Tł	eg ga ir Gl			il Pr				cgc Arg	30	)69
_	gaa Glu 1025	Thr					u Gl	jc ga .y Gl			o Gl					31	.14
	999 Gly 1040	Asp		gag Glu			. Cy	jt gt rs Va	_		e Al		_	_	gag Glu	31	.59
	gac Asp 1055	Thr					. G1	ia ga .u As			u As		_	ctg Leu		32	04
	gag Glu 1070	Glu					Gl				n Pr					32	49
ggc Gly	cca Pro 1085	Glu	gcc Ala	cct Pro	ccg Pro	gat Asp 109	Se	c ag r Ar	g ac	c tg r Tr	p Se	r 0 95	ag In	gtg Val	tca Ser	32	94
gcg Ala	act Thr 1100	Ala	tcc Ser	tct Ser	gag Glu	gcc Ala 110	Gl	g gc u Al	c ag a Se	t go r Al	a Se	t c r 0	ag 31n	gcc Ala	gac Asp	33	39
tgg Trp	cgg Arg 1115	Gln	cag Gln	tgg Trp	aaa Lys	gcg Ala 112	Gl	a cc u Pr	c ca o Gl	g gc n Al	a Pr	a g o G 25	;1y igg	tgc Cys	ggt Gly	33	84
	acc Thr 1130	Pro					Se	c ga r Gl			r Th					34	29

	aac Asn 1145														3474
_	gtc Val 1160	_	_			_	_			_		_	_		3519
	tgt Cys 1175														3564
_	tgg Trp 1190			_	_	_	Thr	_							3609
_	tgg Trp 1205								_				_	-	3654
	gcg Ala 1220	_	-			_							_		3699
	aag Lys 1235	_	_				_	_	_	_				_	3744
	gtg Val 1250	_		_	_		_			_				-	3789
	tac Tyr 1265				-									_	3834
	gtc Val 1280														3879
	atg Met 1295	-			_	tca Ser 1300	_		_	_	_	_		_	3924
	ctg Leu 1310														3969
	gcc Ala 1325														4014
	tgc Cys 1340														4059
	ttt Phe 1355														4104
	ttg Leu														4149

1370	1375	1380
------	------	------

	tcc Ser 1385											Lys			4194
	aac Asn 1400														4239
	gca Ala 1415						Met								4284
	tcc Ser 1430														4329
	atg Met 1445						Ile								4374
	acc Thr 1460														4419
	cag Gln 1475														4464
	cag Gln 1490														4509
_	ccc Pro 1505	_	_						_		_		_		4554
	ata Ile 1520														4599
	ttt Phe 1535														4644
_	gac Asp 1550		_							_	_	_			4689
_	ctc Leu 1565			-						_		_	_	_	4734
_	gcc Ala 1580	_	_				Phe			_					4779
	ttc Phe 1595														4824
gac	atc	atc	cag	aag	tac	ttc	ttc	tcc	ccg	acg	ctc	ttc	cga	gtc	4869

Asp	Ile 1610	Ile	Gln	Lys	Tyr	Phe 1615		Ser	Pro	Thr	Leu 1620	Phe	Arg	Val		
						ggc Gly 1630							-	gjå aaa	4914	
_	_			_	_	ctg Leu 1645	Leu		_		_	_		ctg Leu	4959	
						ggg Gly 1660									5004	
		Ser				atg Met 1675	Āla								5049	
						atg Met 1690	Phe							aac Asn	5094	
_	_	_	_			cag Gln 1705	Ile		_	_	_		tgg Trp	-	5139	
			_			ctc Leu 1720	Asn			_			tgc Cys	-	5184	
						aat Asn 1735	Gly						Gly 333		5229	
		Val				ttc Phe 1750	Phe						atc Ile		5274	
		Ile			Asn	atg Met 1765	Tyr					Leu			5319	
	_		_	_		gag Glu 1780	_				_	_	gag Glu	gac Asp	5364	
_		-	_			gag Glu 1795						_	cca Pro		5409	
_	act Thr 1805					tat Tyr 1810							gcc Ala		5454	
	ctg Leu 1820					cgt Arg 1825		_	_			_	ata Ile	_	5499	
			_	_	_	ccc Pro 1840	_		_		-	-	atc Ile		5544	

	atg Met 1850	-				_					gtc Val 1860	_		-	5589
	999 Gly 1865										gag Glu 1875				5634
_	gca Ala 1880										ccc Pro 1890				5679
											atg Met 1905				5724
_	gcc Ala 1910		_			_	_		_		ttg Leu 1920	_		-	5769
	ttc Phe 1925			_	_	_					ctc Leu 1935		_		5814
											gtg Val 1950		-	gag Glu	5859
	ttc Phe 1955		_							_	tcc Ser 1965				5904
	act Thr 1970							_	_	_	act Thr 1980	_	_		5949
_	_			_					_		agc Ser 1995		_	-	5994
-		Ala	Asp	Phe	Pro		Ser	Pro	_	Arg	gac Asp 2010	Arg			6039
	gtg Val 2015	tgag	gcct	egg (	cctgg	getggd	cag	ggaca	acac	tgaa	aaagca	ag co	cttt	tcac	6095
cato	gcaaa	ac ct	caaat	gcag	g tca	agtcan	naa a	accaç	gccts	gg gg	gcctto	cctg	gctt	tgggag	6155
taag	gaaato	gg gd	cct												6169

Met Ala Asn Phe Leu Leu Pro Arg Gly Thr Ser Ser Phe Arg Arg Phe  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

<sup>&</sup>lt;210> 6 <211> 2015 <212> PRT <213> Homo sapiens

<sup>&</sup>lt;400> 6

Thr	Arg	Glu	Ser 20	Leu	Ala	Ala	Ile	Glu 25	Lys	Arg	Met	Ala	Glu 30	Lys	Gln
Ala	Arg	Gly 35	Ser	Thr	Thr	Leu	Gln 40	Glu	Ser	Arg	Glu	Gly 45	Leu	Pro	Glu
Glu	Glu 50	Ala	Pro	Arg	Pro	Gln 55	Leu	Asp	Leu	Gln	Ala 60	Ser	Lys	Lys	Leu
Pro 65	Asp	Leu	Tyr	Gly	Asn 70	Pro	Pro	Gln	Glu	Leu 75	Ile	Gly	Glu	Pro	Leu 80
Glu	Asp	Leu	Asp	Pro 85	Phe	Tyr	Ser	Thr	Gln 90	Lys	Thr	Phe	Ile	Val 95	Leu
Asn	Lys	Gly	Lys 100	Thr	Ile	Phe	Arg	Phe 105	Ser	Ala	Thr	Asn	Ala 110	Leu	Tyr
Val	Leu	Ser 115	Pro	Phe	His	Pro	Ile 120	Arg	Arg	Ala	Ala	Val 125	Lys	Ile	Leu
Val	His 130	Ser	Leu	Phe	Asn	Met 135	Leu	Ile	Met	Сув	Thr 140	Ile	Leu	Thr	Asn
Cys 145	Val	Phe	Met	Ala	Gln 150	His	Asp	Pro	Pro	Pro 155	Trp	Thr	Lys	Tyr	Val 160
Glu	Tyr	Thr	Phe	Thr 165	Ala	Ile	Tyr	Thr	Phe 170	Glu	Ser	Leu	Val	Lys 175	Ile
Leu	Ala	Arg	Gly 180	Phe	Cys	Leu	His	Ala 185	Phe	Thr	Phe	Leu	Arg 190	Asp	Pro
Trp	Asn	Trp 195	Leu	Asp	Phe	Ser	Val 200	Ile	Ile	Met	Ala	Tyr 205	Thr	Thr	Glu
Phe	Val 210	Asp	Leu	Gly	Asn	Val 215	Ser	Ala	Leu	Arg	Thr 220	Phe	Arg	Val	Leu
Arg 225	Ala	Leu	Lys	Thr	Ile 230	Ser	Val	Ile	Ser	Gly 235	Leu	Lys	Thr	Ile	Val 240
Gly	Ala	Leu	Ile	Gln 245	Ser	Val	Lys	Lys	Leu 250	Ala	Asp	Val	Met	Val 255	Leu
Thr	Val	Phe	Cys 260	Leu	Ser	Val	Phe	Ala 265	Leu	Ile	Gly	Leu	Gln 270	Leu	Phe

Met	Gly	Asn 275	Leu	Arg	His	Lys	Cys 280	Val	Arg	Asn	Phe	Thr 285	Ala	Leu	Asn
Gly	Thr 290	Asn	Gly	Ser	Val	Glu 295	Ala	Asp	Gly	Leu	Val 300	Trp	Glu	Ser	Leu
Asp 305	Leu	Tyr	Leu	Ser	Asp 310	Pro	Glu	Asn	Tyr	Leu 315	Leu	Lys	Asn	Gly	Thr 320
Ser	Asp	Val	Leu	Leu 325	Сув	Gly	Asn	Ser	Ser 330	Asp	Ala	Gly	Thr	Cys 335	Pro
Glu	Gly	Tyr	Arg 340	Сув	Leu	Lys	Ala	Gly 345	Glu	Asn	Pro	Asp	His 350	Gly	Tyr
Thr	Ser	Phe 355	Asp	Ser	Phe	Ala	Trp 360	Ala	Phe	Leu	Ala	Leu 365	Phe	Arg	Leu
Met	Thr 370	Gln	Asp	Сув	Trp	Glu 375	Arg	Leu	Tyr	Gln	Gln 380	Thr	Leu	Arg	Ser
Ala 385	Gly	Lys	Ile	Tyr	Met 390	Ile	Phe	Phe	Met	Leu 395	Val	Ile	Phe	Leu	Gly 400
Ser	Phe	Tyr	Leu	Val 405	Asn	Leu	Ile	Leu	Ala 410	Val	Val	Ala	Met	Ala 415	Tyr
Glu	Glu	Gln	Asn 420	Gln	Ala	Thr	Ile	Ala 425	Glu	Thr	Glu	Glu	Lys 430	Glu	Lys
Arg	Phe	Gln 435	Glu	Ala	Met	Glu	Met 440	Leu	Lys	Lys	Glu	His 445	Glu	Ala	Leu
Thr	Ile 450	Arg	Gly	Val	Asp	Thr 455	Val	Ser	Arg	Ser	Ser 460	Leu	Glu	Met	Ser
Pro 465	Leu	Ala	Pro	Val	Asn 470	Ser	His	Glu	Arg	Arg 475	Ser	Lys	Arg	Arg	Lys 480
Arg	Met	Ser	Ser	Gly 485	Thr	Glu	Glu	Cys	Gly 490	Glu	Asp	Arg	Leu	Pro 495	Lys
Ser	Asp	Ser	Glu 500	Asp	Gly	Pro	Arg	Ala 505	Met	Asn	His	Leu	Ser 510	Leu	Thr

Arg Gly Leu Ser Arg Thr Ser Met Lys Pro Arg Ser Ser Arg Gly Ser

Ile	Phe 530	Thr	Phe	Arg	Arg	Arg 535	Asp	Leu	Gly	Ser	Glu 540	Ala	Asp	Phe	Ala
Asp 545	Asp	Glu	Asn	Ser	Thr 550	Ala	Gly	Glu	Ser	Glu 555	Ser	His	His	Thr	Ser 560
Leu	Leu	Val	Pro	Trp 565	Pro	Leu	Arg	Arg	Thr 570	Ser	Ala	Gln	Gly	Gln 575	Pro
Ser	Pro	Gly	Thr 580	Ser	Ala	Pro	Gly	His 585	Ala	Leu	His	Gly	Lys 590	Lys	Asn
Ser	Thr	Val 595	Asp	Cys	Asn	Gly	Val 600	Val	Ser	Leu	Leu	Gly 605	Ala	Gly	Asp
Pro	Glu 610	Ala	Thr	Ser	Pro	Gly 615	Ser	His	Leu	Leu	Arg 620	Pro	Val	Met	Leu
Glu 625	His	Pro	Pro	Asp	Thr 630	Thr	Thr	Pro	Ser	Glu 635	Glu	Pro	Gly	Gly	Pro 640
Gln	Met	Leu	Thr	Ser 645	Gln	Ala	Pro	Cys	Val 650	Asp	Gly	Phe	Glu	Glu 655	Pro
Gly	Ala	Arg	Gln 660	Arg	Ala	Leu	Ser	Ala 665	Val	Ser	Val	Leu	Thr 670	Ser	Ala
Leu	Glu	Glu 675	Leu	Glu	Glu	Ser	Arg 680	His	Lys	Cys	Pro	Pro 685	Cys	Trp	Asn
Arg	Leu 690	Ala	Gln	Arg	Tyr	Leu 695	Ile	Trp	Glu	Cys	Cys 700	Pro	Leu	Trp	Met
Ser 705	Ile	Lys	Gln	Gly	Val 710	Lys	Leu	Val	Val	Met 715	Asp	Pro	Phe	Thr	Asp 720
Leu	Thr	Ile	Thr	Met 725	Cys	Ile	Val	Leu	Asn 730	Thr	Leu	Phe	Met	Ala 735	Leu
Glu	His	Tyr	Asn 740	Met	Thr	Ser	Glu	Phe 745	Glu	Glu	Met	Leu	Gln 750	Val	Gly
Asn	Leu	Val 755	Phe	Thr	Gly	Ile	Phe 760	Thr	Ala	Glu	Met	Thr 765	Phe	Lys	Ile

- Ile Ala Leu Asp Pro Tyr Tyr Tyr Phe Gln Gln Gly Trp Asn Ile Phe 770 775 780
- Asp Ser Ile Ile Val Ile Leu Ser Leu Met Glu Leu Gly Leu Ser Arg 785 790 795 800
- Met Ser Asn Leu Ser Val Leu Arg Ser Phe Arg Leu Leu Arg Val Phe 805 810 815
- Lys Leu Ala Lys Ser Trp Pro Thr Leu Asn Thr Leu Ile Lys Ile Ile 820 825 830
- Gly Asn Ser Val Gly Ala Leu Gly Asn Leu Thr Leu Val Leu Ala Ile 835 840 845
- Ile Val Phe Ile Phe Ala Val Val Gly Met Gln Leu Phe Gly Lys Asn 850 855 860
- Tyr Ser Glu Leu Arg Asp Ser Asp Ser Gly Leu Leu Pro Arg Trp His 865 870 875 886
- Met Met Asp Phe Phe His Ala Phe Leu Ile Ile Phe Arg Ile Leu Cys 885 890 895
- Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met Glu Val Ser Gly Gln 900 905 910
- Ser Leu Cys Leu Leu Val Phe Leu Leu Val Met Val Ile Gly Asn Leu 915 920 925
- Val Val Leu Asn Leu Phe Leu Ala Leu Leu Ser Ser Phe Ser Ala 930 935 940
- Asp Asn Leu Thr Ala Pro Asp Glu Asp Arg Glu Met Asn Asn Leu Gln 945 950 955 960
- Leu Ala Leu Ala Arg Ile Gln Arg Gly Leu Arg Phe Val Lys Arg Thr 965 970 975
- Thr Trp Asp Phe Cys Cys Gly Leu Leu Arg Gln Arg Pro Gln Lys Pro 980 985 990
- Ala Ala Leu Ala Ala Gln Gly Gln Leu Pro Ser Cys Ile Ala Thr Pro 995 1000 1005
- Tyr Ser Pro Pro Pro Glu Thr Glu Lys Val Pro Pro Thr Arg 1010 1015 1020

Lys Glu 1025		Arg	Phe	Glu	Glu 1030	_	Glu	Gln	Pro	Gly 1035		Gly	Thr
Pro Gly 1040	Asp	Pro	Glu	Pro	Val 1045	Cys	Val	Pro	Ile	Ala 1050	Val	Ala	Glu
Ser Asp 1055		Asp	Asp		Glu 1060		Asp	Glu	Glu	Asn 1065		Leu	Gly
Thr Glu 1070		Glu	Ser	Ser	Lys 1075		Glu	Ser	Gln	Pro 1080		Ser	Gly
Gly Pro 1085	Glu	Ala	Pro	Pro	Asp 1090	Ser	Arg	Thr	Trp	Ser 1095	Gln	Val	Ser
Ala Thr 1100	Ala	Ser	Ser	Glu	Ala 1105	Glu	Ala	Ser	Ala	Ser 1110	Gln	Ala	Asp
Trp Arg 1115	Gln	Gln	Trp	Lys	Ala 1120	Glu	Pro	Gln	Ala	Pro 1125	Gly	Cys	Gly
Glu Thr 1130	Pro	Glu	Asp	Ser	Cys 1135		Glu	Gly		Thr 1140		Asp	Met
Thr Asn 1145	Thr	Ala	Glu	Leu	Leu 1150	Glu	Gln	Ile	Pro	Asp 1155	Leu	Gly	Gln
Asp Val 1160	Lys	Asp	Pro		Asp 1165	Суз	Phe	Thr	Glu	Gly 1170	Cys	Val	Arg
Arg Cys 1175		Cys	Cys	Ala	Val 1180	Asp	Thr	Thr		Ala 1185	Pro	Gly	Lys
Val Trp 1190	Trp	Arg	Leu	Arg	Lys 1195	Thr	Cys	Tyr	His	Ile 1200	Val	Glu	His

Ser Trp  $\$ Phe Glu  $\$ Thr  $\$ Phe Ile  $\$ Ile  $\$ Phe Met Ile  $\$ Leu  $\$ Leu  $\$ Ser  $\$ Ser

Gly Ala Leu Ala Phe Glu Asp Ile Tyr Leu Glu Glu Arg Lys Thr

Ile Lys Val Leu Leu Glu Tyr Ala Asp Lys Met Phe Thr Tyr Val

Phe Val Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Lys

Asp Val Ser Leu Val Ser Leu Val Ala Asn Thr Leu Gly Phe Ala Glu Met Gly Pro Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn Ala Leu Val Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe Gly Arg Cys Ile Asn Gln Thr Glu Gly Asp Leu Pro Leu Asn Tyr Thr Ile Val Asn Asn Lys Ser Gln Cys Glu Ser Leu Asn Leu Thr Gly Glu Leu Tyr Trp Thr Lys Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala Ala Val 

Lys Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val

1445 1450 1455

Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn

Tyr Met Tyr Ile Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe

Asp Ser Arg Gly Tyr Glu Glu Gln Pro Gln Trp Glu Tyr Asn Leu

- 1460 1465 1470
- Gln Gln Lys Lys Leu Gly Gly Gln Asp Ile Phe Met Thr Glu 1475 1480 1485
- Glu Gln Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys

1490 1495 1500

Lys	Pro 1505		Lys	Pro	Ile	Pro 1510	_	Pro	Leu	Asn	Lys 1515	Tyr	Gln	Gly
Phe	Ile 1520	Phe	Asp	Ile	Val	Thr 1525	_	Gln	Ala	Phe	Asp 1530	Val	Thr	Ile
Met	Phe 1535		Ile	Cys	Leu	Asn 1540		Val	Thr	Met	Met 1545	Val	Glu	Thr
Asp	Asp 1550	Gln	Ser	Pro	Glu	Lys 1555	Ile	Asn	Ile	Leu	Ala 1560	Lys	Ile	Asn
Leu	Leu 1565		Val	Ala	Ile	Phe 1570	Thr	Gly	Glu	Cys	Ile 1575	Val	Lys	Leu
Ala	Ala 1580	Leu	Arg	His	Tyr	Tyr 1585	Phe	Thr	Asn	Ser	Trp 1590	Asn	Ile	Phe
Asp	Phe 1595	Val	Val	Val	Ile	Leu 1600	Ser	Ile	Val	Gly	Thr 1605	Val	Leu	Ser
Asp	Ile 1610	Ile	Gln	Lys	Tyr	Phe 1615	Phe	Ser	Pro	Thr	Leu 1620	Phe	Arg	Val
Ile	Arg 1625	Leu	Ala	Arg	Ile	Gly 1630	Arg	Ile	Leu	Arg	Leu 1635	Ile	Arg	Gly
Ala	Lys 1640	Gly	Ile	Arg	Thr	Leu 1645	Leu	Phe	Ala	Leu	Met 1650	Met	Ser	Leu
Pro	Ala 1655	Leu	Phe	Asn	Ile	Gly 1660	Leu	Leu	Leu	Phe	Leu 1665	Val	Met	Phe
Ile	Tyr 1670	Ser	Ile	Phe	Gly	Met 1675	Ala	Asn	Phe	Ala	Tyr 1680	Val	Lys	Trp
Glu	Ala 1685	Gly	Ile	Asp	Asp	Met 1690	Phe	Asn	Phe	Gln	Thr 1695	Phe	Ala	Asn
Ser	Met 1700	Leu	Cys	Leu	Phe	Gln 1705	Ile	Thr	Thr	Ser	Ala 1710	Gly	Trp	Asp
Gly	Leu 1715	Leu	Ser	Pro	Ile	Leu 1720	Asn	Thr	Gly	Pro	Pro 1725	Tyr	Cys	Asp

- Pro Thr Leu Pro Asn Ser Asn Gly Ser Arg Gly Asp Cys Gly Ser 1730 1735 1740
- Pro Ala Val Gly Ile Leu Phe Phe Thr Thr Tyr Ile Ile Ile Ser 1745 1750 1755
- Phe Leu Ile Val Val Asn Met Tyr Ile Ala Ile Ile Leu Glu Asn 1760 1765 1770
- Phe Ser Val Ala Thr Glu Glu Ser Thr Glu Pro Leu Ser Glu Asp 1775 1780 1785
- Asp Phe Asp Met Phe Tyr Glu Ile Trp Glu Lys Phe Asp Pro Glu 1790 1795 1800
- Ala Thr Gln Phe Ile Glu Tyr Ser Val Leu Ser Asp Phe Ala Asp 1805 1810 1815
- Ala Leu Ser Glu Pro Leu Arg Ile Ala Lys Pro Asn Gln Ile Ser 1820 1825 1830
- Leu Ile Asn Met Asp Leu Pro Met Val Ser Gly Asp Arg Ile His 1835 1840 1845
- Cys Met Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu 1850 1855 1860
- Ser Gly Glu Met Asp Ala Leu Lys Ile Gln Met Glu Glu Lys Phe 1865 1870 1875
- Met Ala Ala Asn Pro Ser Lys Ile Ser Tyr Glu Pro Ile Thr Thr 1880 1885 1890
- Thr Leu Arg Arg Lys His Glu Glu Val Ser Ala Met Val Ile Gln 1895 1900 1905
- Arg Ala Phe Arg Arg His Leu Leu Gln Arg Ser Leu Lys His Ala 1910 1915 1920
- Ser Phe Leu Phe Arg Gln Gln Ala Gly Ser Gly Leu Ser Glu Glu 1925 1930 1935
- Asp Ala Pro Glu Arg Glu Gly Leu Ile Ala Tyr Val Met Ser Glu 1940 1945 1950
- Asn Phe Ser Arg Pro Leu Gly Pro Pro Ser Ser Ser Ser Ile Ser 1955 1960 1965

Ser Thr Ser 1970	r Phe Pro Pro	Ser Tyr As 1975	p Ser Val Thr 1980	Arg Ala Thr
Ser Asp Asr 1985	n Leu Gln Val	Arg Gly Se	r Asp Tyr Ser 1995	His Ser Glu
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	Pro Arg Pro		ctg cag gcc tcc Leu Gln Ala Ser 60	
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	_	Tyr Ser Thr	caa aag act tto Gln Lys Thr Phe 90	<del>-</del>
	_		agt gcc acc aac Ser Ala Thr Asn	_ <del>_</del>
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_	Leu Phe Asn	_	atg tgc acc ato Met Cys Thr Ile 140	

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								acc Thr								528
								gcg Ala 185								576
								att Ile								624
								gcc Ala								672
								att Ile								720
								aag Lys								768
	_		_		_	_		gcc Ala 265				_	_			816
								gtg Val								864
					_		_	gac Asp		_	_		_		_	912
_				_	_		_	aat Asn		_		_				960
	-			_	-			agc Ser		_	_			_	_	1008
				_		_	_	ggc Gly 345				_				1056
								gcc Ala								1104
_		_	-	_		_	_	ctc Leu		_	_					1152
_		_			_			ttc Phe	_		_			_		1200

385	390	395		400
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cgc ttc cag gag Arg Phe Gln Glu 435		Leu Lys Lys		
acc atc agg ggt Thr Ile Arg Gly 450				
cct ttg gcc cca Pro Leu Ala Pro 465	_			
cgg atg tct tca Arg Met Ser Ser				
tct gac tca gaa Ser Asp Ser Glu 500		-		
cgt ggc ctc agc Arg Gly Leu Ser 515		Lys Pro Arg		
att ttc acc ttt Ile Phe Thr Phe 530				_
gat gat gaa aac Asp Asp Glu Asn 545				
ctg ctg gtg ccc Leu Leu Val Pro				
agt ccc gga acc Ser Pro Gly Thr 580		_	-	
agc act gtg gac Ser Thr Val Asp 595		_		_
cca gag gcc aca Pro Glu Ala Thr : 610				
gag cac ccg cca g Glu His Pro Pro 2 625				
cag atg ctg acc	ccc cag gct ccg	tgt gta gat	ggc ttc gag gag	cca 1968

Gln	Met	Leu	Thr	Ser 645	Gln	Ala	Pro	Сув	Val 650	Asp	Gly	Phe	Glu	Glu 655	Pro	
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	gaa Glu															2064
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Ser Leu Cys Leu Leu Val Phe Leu Leu Val Met Val Ile Gly Asn Leu 915 920 925

Val Val Leu Asn Leu Phe Leu Ala Leu Leu Ser Ser Phe Ser Ala 930 · 935 940

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Trp Ala Arg Arg Glu Ser Ser Lys Gln Glu Ser Gln Pro Val Ser
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                                                                         48
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 <223> Partial genomic DNA sequence of SCN5A
 <400> 21
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